

December 16, 1968

Mr. Tim Douglas
Managing Editor
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Dear Mr. Douglas:

This is further response to your letter of November 5 requesting an opinion on genetic effects of LSD.

I am enclosing one of my recent articles that summarizes my own evaluation of the present situation. It is not very satisfactory, since there are many uncertainties that can only be cleared up by difficult and continued studies.

One should be careful to state exactly what the question is. If you were to ask whether there were scientifically rigorous and irrefutable proof that LSD caused genetic or embryological abnormalities in man, I would have to say that the evidence does not yet meet that standard. If you were to ask me for reassurance about the safety of LSD from the point of view of its genetic hazard, I would have to say that the existing evidence points to grave doubts about that safety.

There are very serious obstacles in the way of getting easy answers to questions of this kind. It is very difficult to find people with an established history of chronic use of LSD who have not also exposed themselves to many other drugs and habits of life ~~the~~ poor nutrition and exposure to virus infections - that might play at least an important a role in genetic or fetal damage. This criticism is particularly applicable to the kind of report that was, for example, recently publicized from Dr. Jacobson's work, of which I enclose a newspaper clipping.

The fact still remains that LSD has been found to have effects on cells in tissue culture and that the best studies that have been published so far do point to a considerable increase in the frequency of cells with broken chromosomes among chronic LSD users. Other drugs in high dosage may well

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cause similar effects, and the whole area is one that deserves much more detailed investigation. Meanwhile, although I would have to discount some of the scarier and more alarming reports, I would have to caution that there are grave doubts about the health hazards of LSD on several counts, and we cannot ignore the possibility of genetic damage from its chronic use.

Sincerely yours,

Joshua Lederberg
Professor of Genetics